

# **Improved vocabulary outcomes through student reflection: Report from an urban high school**

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## *Abstract*

*Low-SES students are at a particular disadvantage when it comes to vocabulary acquisition, and poor vocabulary is a significant risk factor for poor reading comprehension. Students who can self-regulate, however, tend to be high academic achievers, and research suggests that self-reflection is an important stage in the self-regulation cycle. This paper describes an attempt to improve grade ten students' motivation to learn vocabulary by engaging them in a brief period of self-reflection after weekly vocabulary quizzes. At the end of the study, students reported spending more time preparing for quizzes and had greater confidence in their performance.*

## *Introduction*

### *The Vocabulary Gap*

Children of poverty are alarmingly disadvantaged when it comes to vocabulary size. Hart and Risley's (1995) landmark study revealed that, in the first four years of life, children of professional parents will have heard 45 million words, compared to 13 million words heard by the children of parents on welfare. In fact, cumulative monthly spoken vocabularies of the *children* of professional parents will contain more words during their first three years of life than the vocabularies of *parents* in the most economically disadvantaged families during the same time period. As a result, children of divergent socioeconomic status (SES) backgrounds enter kindergarten poised to follow very different learning trajectories with dramatic implications for reading outcomes. Kindergartners' vocabularies are predictive of their reading comprehension ability in middle school (Tabors, Snow, & Dickinson, 2001), and vocabulary size at the end of first grade predicts reading skills ten years later (Cunningham & Stanovich, 1997).

Besides the academic benefits of having a sizable vocabulary, there are, in my opinion, more practical reasons to increase vocabulary size, as well. The high-school population I teach is overwhelmingly low-SES, and I hoped that improving my students' vocabularies would provide them with a valuable social tool as they moved through college and the work force and would increase their confidence in their interactions with individuals from different backgrounds. In addition, many of my students would be taking the SAT (a widely used college admissions test in the United States that assesses critical reading, writing, and math skills; formerly the Scholastic Aptitude Test) in the upcoming year, and vocabulary knowledge remains critical to scoring well on the exam.

### *Background and Context*

I carried out this research in the South Bronx high school where I was teaching two double-periods of freshman (grade 9) English and one single-period of sophomore (grade 10) English daily. The United States 16<sup>th</sup> Congressional District, which comprises the South Bronx, was the poorest of the nation's 435 congressional districts in 2010, according to the U.S. Census Bureau. The student population of my high school, according to recent data from the New York

State and New York City education departments, is 37% African-American, 61% Hispanic, and 2% Asian, with 82% of students eligible for federal free lunch programs. The average daily attendance rate is approximately 83%, and roughly 68% of students who sit for the state Board of Regents comprehensive English exam, a prerequisite to graduation, pass in a given term.

It seems safe to assume that many of the teenagers who attend this school were once the kindergartners who had been exposed to 32 million fewer words than their higher-SES counterparts. Effective instruction was needed if I were to have any chance of leveling the vocabulary playing field for them. Research has shown that traditional methods of teaching vocabulary, such as simply having students copy or memorize definitions, are largely ineffective (Beck, McKeown, & Kucan, 2002). And although new vocabulary can occasionally be acquired, through context, in the course of normal reading (Nagy, Herman & Anderson, 1985), students with the weakest vocabularies are often the most likely to avoid reading (Chapman & Tunmer, 2003). Stahl and Fairbanks' (1986) meta-analysis of 52 studies revealed the following characteristics of effective vocabulary instruction:

- Provides both definitional and contextual information for words
- Involves students in deep processing of words
- Offers multiple exposures to words used in different contexts

I had been incorporating these elements into my tenth-graders' vocabulary instruction for several months (my freshman curriculum was tightly scripted and did not allow me to implement my own vocabulary program). Each Friday's (or in some cases, Thursday's) class began with a short vocabulary quiz (see Appendix for a sample quiz). Three new words were added to students' vocabulary bank at the beginning of every week, and students knew they would be quizzed on a combination of new and old words at the end of the week. Words were displayed around the classroom, and at least one vocabulary-related activity was included in the lesson most days of the week. I had also begun a *Words Found in Actual Life* bulletin board, where students could receive extra credit for bringing in examples of vocabulary words found in books or magazines. Words themselves were selected for one of two reasons: because I felt they were genuinely useful (e.g., *ravenous*, *pariah*), or because I thought the students would enjoy them (e.g., *brouhaha*, *gyrate*).

By March, I was growing concerned that the program was failing. Weekly quiz scores were consistently low, and I had no evidence that students were making any effort to improve them. Extrinsic motivators did not seem to be working, and I was eager to find a way to ignite in my students an intrinsic desire to improve their vocabularies. Because the class was engaged in other reading and writing projects, I was unwilling to devote much more in-class time to vocabulary study. I needed to find a brief, in-class activity that would result in students' investing time in vocabulary study outside of class.

### *The Contribution of Self-Reflection to Self-Regulation and Planning*

Past research has shown that self-regulation training, including instruction in self-reflection, can lead to high levels of motivation and achievement in students (Schunk, 1996; Wood, Bandura, & Bailey, 1990). Zimmerman and Cleary (2000) proposed a dynamic feedback model of self-regulation, which assumes that self-regulated learners

will regulate their academic behaviors and beliefs in three cyclical phases:

forethought (i.e., processes that precede any effort to act), performance control (i.e., processes occurring during learning efforts), and self-reflection (i.e., processes occurring after learning or performance). The forethought processes influence the performance control processes, which in turn influence self-reflection phase processes. A cycle is completed when the self-reflection processes impact forethought phase processes during future learning attempts. It should be noted that these phases are cyclical in that feedback from previous performances is used to make adjustments during future learning efforts and attempts (p. 538).

I decided to make a brief survey for my students to fill out after they completed their vocabulary quiz each week. The questions on the survey would be designed to engage the self-reflection phase of the self-regulation cycle. If the self-reflection phase triggered the forethought phase and thus completed the cycle, I was expecting to see reports of greater preparation and confidence in performance on future surveys. The aim of the exercise, in short, was to improve student vocabulary learning and motivation to study through a brief post-quiz reflection on performance.

### *Methods*

#### *Participants*

There were 22 students on my sophomore English roster, but attendance was spotty. To my knowledge, none of the students had an Individualized Education Program or had been officially designated an English Language Learner, although roughly half the class was bilingual. They were a boisterous and essentially friendly group of teenagers with a very bad track record for handing in homework. Only four students in the class were boys.

#### *Data Collection and Analysis*

*Post-quiz survey.* After completing the weekly 15-20 minute vocabulary quiz that opened the class, I asked my students to fill out this open-ended, five-question survey:

1. How do you feel you did on the quiz?
2. What did you do to prepare for the quiz?
3. What in-class activity was most useful in helping you learn these words?
4. What could you (or I) do to help you do better next time?
5. Do you feel it's important to study vocabulary? Why or why not?

Survey questions were written to encourage reflection on their self-professed educational values (#5) and behaviors they could adopt in keeping with those values (#2 and #4). I offered them the chance to provide me with feedback on my teaching (#3 and #4), in part because I was hoping for constructive suggestions, and in part because I did not want the students to view the survey as wholly critical. The first question, about how students felt they had done on the quiz, was designed to allow me to track changes in student confidence over the course of the study.

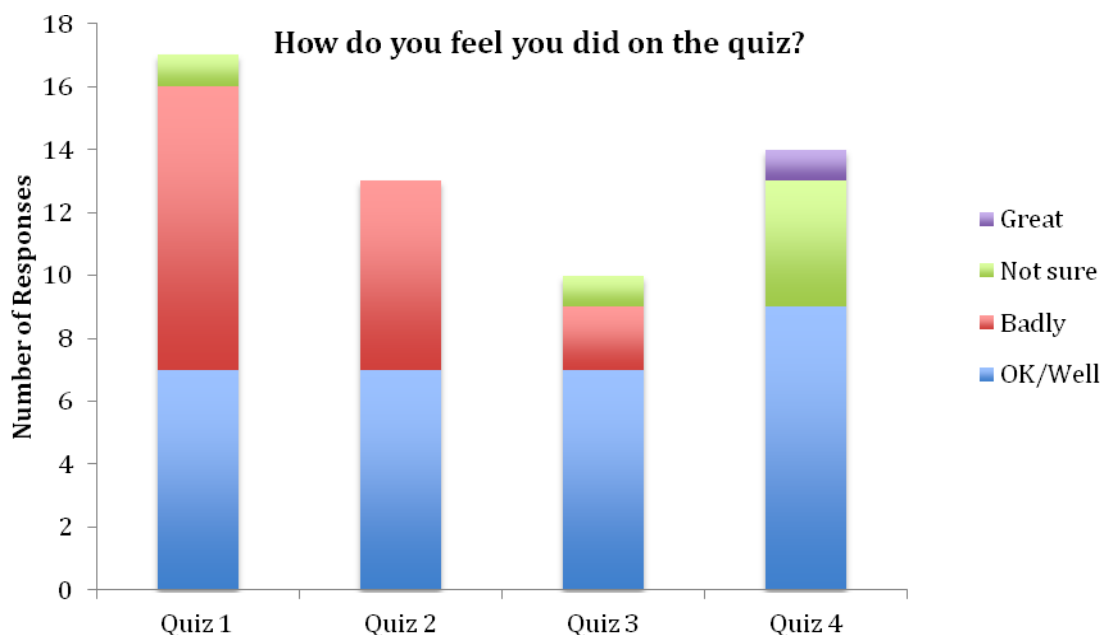
I explained that I was doing some research and the surveys would not count towards their grade, but their cooperation would be appreciated. All of them happily obliged; most spent approximately five minutes on each survey. I then grouped together answers of a similar nature when tallying the responses for each question. For example, the responses “better yourself,” “seem intelligent,” and “get a good job” to the fifth survey question about whether students feel

it's important to study vocabulary and their rationales for their response were all combined under the category, "Yes, to better yourself."

## Results

### Confidence in Performance

Figure 1 shows selected answers provided by students at each of the four testing times for the first survey question (How do you feel you did on the quiz?), and the number of students who provided each answer. In order to make the histogram as clear as possible, answers that are particularly informative or show clear trends over time are depicted visually. Other answers provided by students are explained in the caption beneath the figure. (This procedure was also followed in Figures 3 and 4.)



*Figure 1.* Selected responses to the question, "How do you feel you did on the quiz?" after four consecutive vocabulary quizzes. Additional answers provided by students that are not included in the graph include *Well on one section* (given by two students in Week 1, one student in Week 2 and one student in Week 3); *Better than on past quizzes* (given by one student in Week 3); *Worse than on past quizzes* (given by one student in Week 3); and *Not as well as I could have* (given by one student in Week 3).

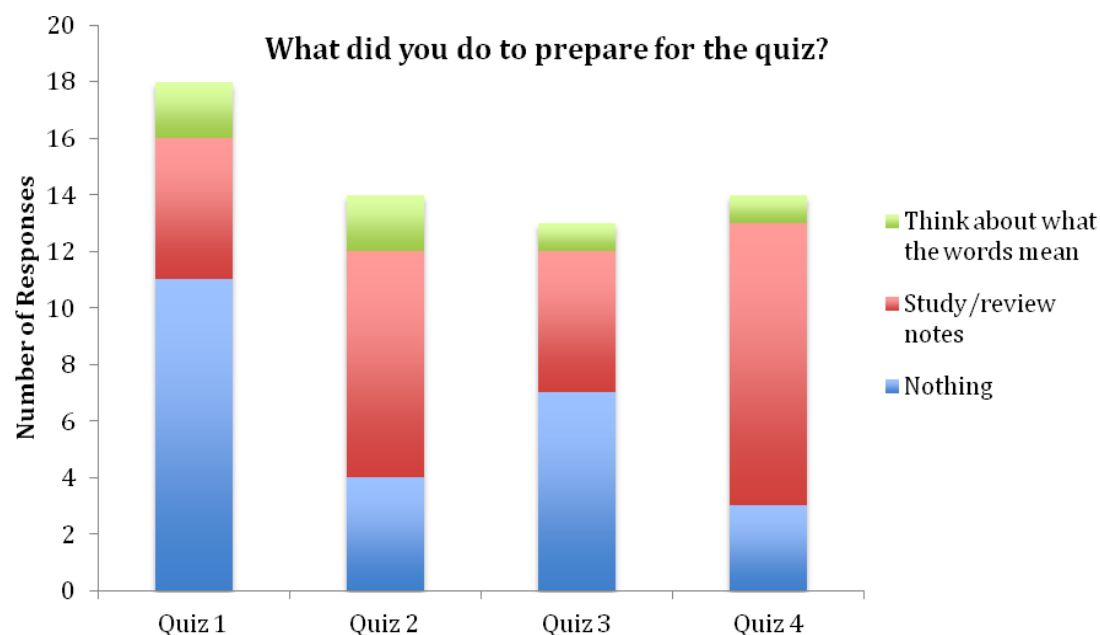
For this and for all following figures, note that in a class of 22 students, 19 students were present at the first testing time, and 14 students were present at each subsequent testing time (although the number of responses to a question in a given week is often lower than the number of students present that day: many students left answers blank or answered questions in reference to the portion of the quiz meant to gauge comprehension of the previous night's reading assignment.) Survey questions were open-ended, and responses expressing similar sentiments were combined in the manner described above.

The evolution of students' confidence in their performance is less evident in the number of students who reported feeling they had done "OK" or "well" on the quizzes than in the

number who reported extreme confidence or lack thereof as the weeks passed. As is evident in Figure 1, the number of students who indicated that they were confident in how well they had done remained more or less constant over four weeks, with seven students providing this answer in each of the first three weeks and two additional students providing this answer in the fourth week. The number of students who reported having done badly, meanwhile, decreased steadily across testing times. By Quiz 4, not a single student felt that he or she had done badly, and one student reported feeling “great” about their performance—the first time that answer was given during the study.

### *Study Habits*

Figure 2 summarizes the survey results for the second question across all testing times. A rough trend in students’ study habits across the four weeks seems to emerge in Figure 2. The number of students who reported having done nothing to prepare for the vocabulary quiz falls from eleven in the first week to only three in the fourth week, while the number who reported having studied doubled, from five at Quiz 1 to ten at Quiz 4. To summarize, the ratio of students who studied to those who did not is inverted from Quiz 1 to Quiz 4 in favor of more preparation.



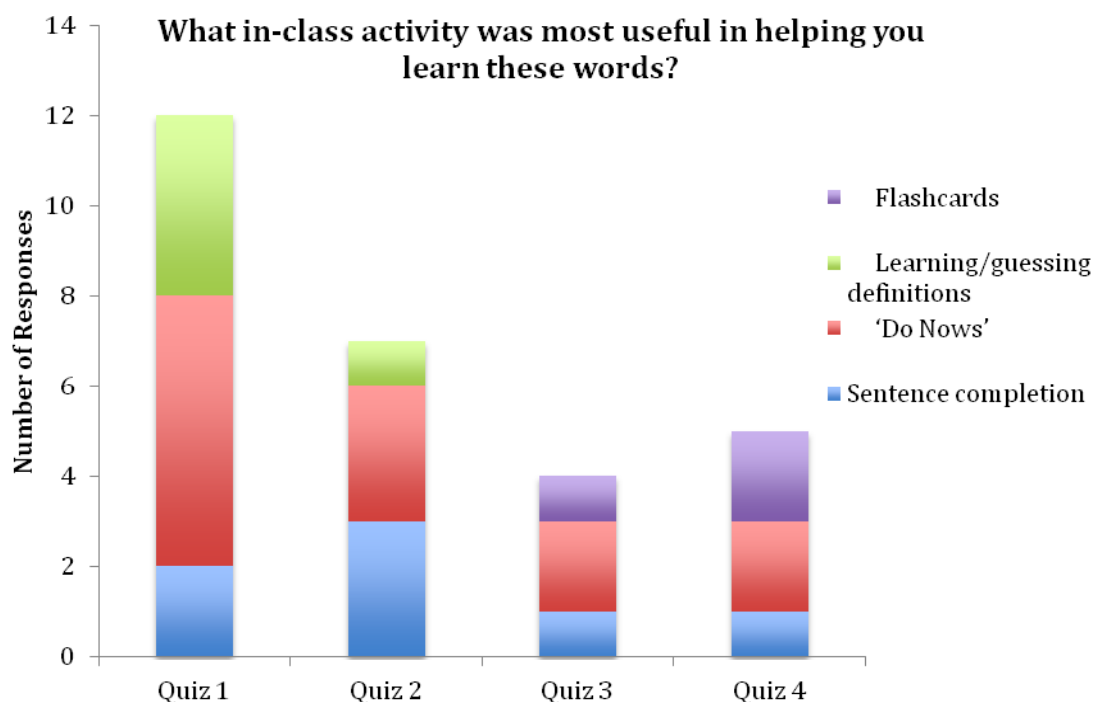
*Figure 2.* Responses to the question, “What did you do to prepare for the quiz?” after four consecutive vocabulary quizzes.

### *Teaching and Learning*

Figure 3 shows selected answers provided by students at each of the four testing times for the third survey question and the number of students who provided each answer.<sup>1</sup> It is hard to know what to make of these data, but one might imagine that the disappearance of

<sup>1</sup> “Do Now”, a common response on the survey, refers to a widespread teaching practice in New York City for transitioning students into the day’s lesson. Typically, a short prompt or instructions for an activity are written on the board for students to see upon entering the classroom, which they have some brief amount of time to complete. Often it serves as an introduction to the day’s lesson or a review of the previous day’s lesson.

“Learning/guessing definitions” and the appearance of “Flashcards” as a response in Week 3 reflect a shift in preference amongst the students from passive or unengaged learning to engaged, interactive learning of material. The flashcards in question were made by the students themselves, and were reviewed in groups, with the group member who provided the most correct definitions during the session awarded bragging rights for the day.



*Figure 3.* Selected responses to the question, “What in-class activity was most useful in helping you learn these words?” after four consecutive vocabulary quizzes. Additional answers provided by students that are not included in the graph include *Writing them down* (given by two students in Week 1 and one student in Week 3); *Explicit instruction* (given by one student in Week 1 and one student in Week 2); *Hanging definitions on wall* (given by two students in Week 2 and one student in Week 4); *Don’t know* (given by one student in Week 1); *Nothing* (given by three students in Week 1 and four students in Week 3); and *Using them in conversation* (given by one student in Week 3).

Because the fourth survey question invited students to offer either an inwardly- or outwardly-directed critique, Figure 4 has been divided into two graphs, one of suggestions offered for myself, as the teacher, and one of suggestions for the students themselves. In the *Student could...* graph, the obvious pattern is that the number of students admitting they should study decreases across the weeks, whereas the sentiment that students could have studied *more* appears in Week 3 and is more popular in Week 4. The overall impression is that each week a greater number of students were investing some amount of time to prepare for the quiz.

The most notable aspect of the *Teacher could...* graph is the decided lack of criticisms lodged against the teacher by Quiz 4. At the final assessment, five students—over one-third of those present—suggested I do “nothing” or “more of the same” to help them improve

### What could you (or I) do to help you do better next time?

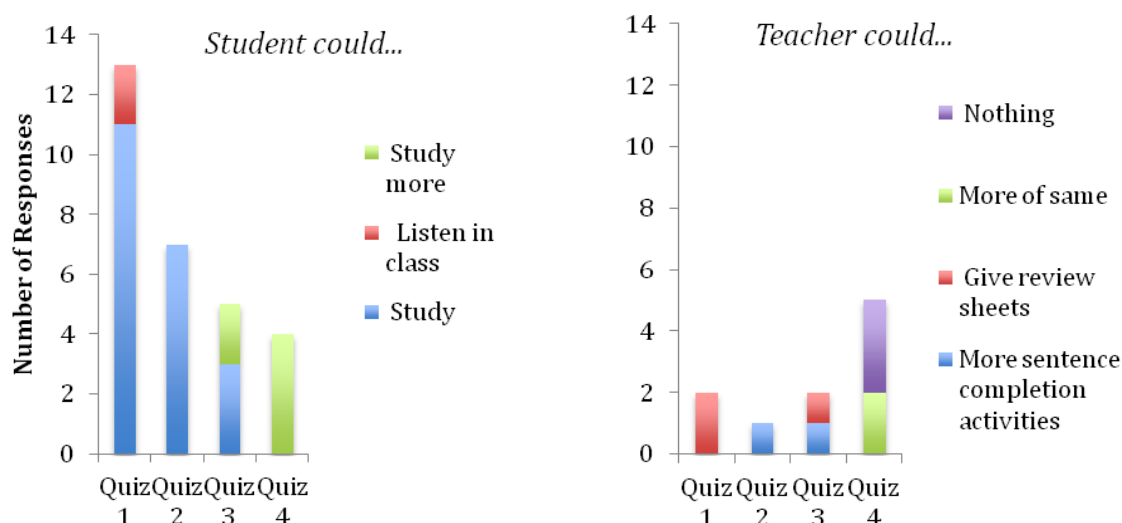


Figure 4. Selected responses to the question, “What could you (or I) do to help you do better next time?” after four consecutive vocabulary quizzes. Additional answers provided by students that address what more students themselves could do include *Use words more* (given by two students in Week 1, one student in Week 2 and one student in Week 4); *Memorize* (given by one student in Week 1 and two students in Week 2); and *Come to class* (given by one student in Week 1). Additional answers provided by students that address what more the teacher could do include *Spend more time* (given by one student in Week 1, one student in Week 2, and one student in Week 4); *Play games* (given by one student in Week 1); *Pass me* (given by one student in Week 1); and *Announce tests* (given by 1 student in Week 2).

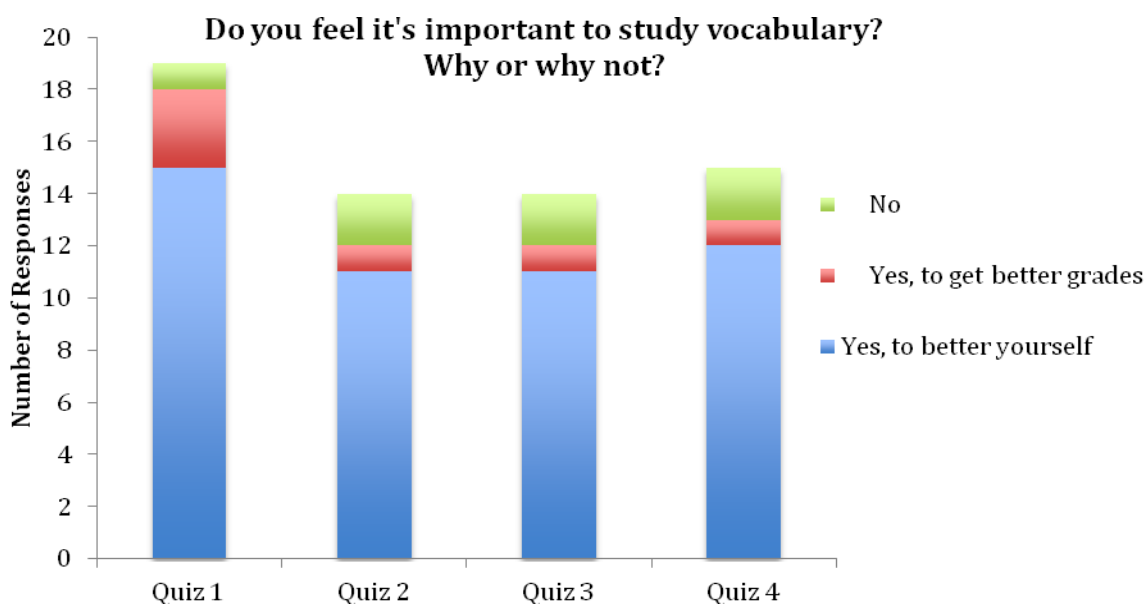


Figure 5. Responses to the question, “Do you feel it’s important to study vocabulary? Why or why not?” after four consecutive vocabulary quizzes.



### *Educational Values*

Figure 5 summarizes the survey results for the fifth question across all testing times. As noted above, the primary motivation for posing this question was to encourage students to reflect the relationship between vocabulary development and their overall well-being and learning. The graph clearly demonstrates that the great majority of students believe this to be the case.

### *Discussion*

#### *From Reflection to Forethought*

Cycles of self-regulation, according to Zimmerman (2000), consist of three phases: forethought, performance control, and self-reflection, with the final phase ideally sparking the first to create a perpetual feedback loop. My goal in this experiment was to promote self-regulation of students' vocabulary learning by initiating the cycle at the self-reflection phase. If successful, the exercise in self-reflection would cause students to engage in forethought (manifested in this case as a motivation to study), which would in turn lead to performance control (here, effective preparation for the upcoming quiz). I believe that the evolution of responses to several of the survey questions over the course of the study indicates that this is indeed what occurred.

In my opinion, Figure 2 provides evidence that post-quiz self-reflection triggered the first phase of the self-regulation cycle, forethought. In the weeks after I began administering the survey, the number of students who reported having taken steps to prepare for upcoming quizzes (an act which can be seen as an indicator of forethought) grew. Similarly, Figure 1 offers evidence of phase two of the cycle, performance control. Cleary and Zimmerman (2004) define performance control as "processes occurring during learning efforts" (p. 538). The increasing satisfaction of students with their quiz performance seen in Figure 1 suggests that learning efforts (i.e., studying) were being carried out with a corresponding increase in efficiency.

I would submit that the survey had additional benefits beyond facilitating students' movement through the phases of self-regulation. Cleary and Zimmerman (2004) point out that, "the first step in training individuals to become self-regulated is to cultivate the belief that *academic success is under student control*" (p. 542). The survey fostered awareness that students had control over their quiz outcomes by prompting them to reflect on what they had done to prepare for the day's quiz (question two) and how they could better prepare themselves for next week's quiz (question four). Cleary and Zimmerman also point out that their Self-Regulation Empowerment Program, a system for training students to adapt self-regulating cycles, works in part through "reduc[ing] student passivity by shifting the responsibility for the problem-solving process from the "professionals" to the students" (p. 540). This shifting responsibility seems to be reflected in Figure 4, which shows students expecting less in the way of preparation on the part of the teacher and investing more time themselves in preparing for quizzes as the weeks progressed.

#### *Limitations and Future Directions*

Because I combined the vocabulary quizzes with quizzes on the class reading, a student's total score on each quiz was all that I recorded in my grade book, so this mark does not reflect his or her performance on the vocabulary portion of the quiz. For this reason I am unable to provide quantitative evidence of my students' improved vocabulary knowledge over the course of the study. In the future, I would be sure to separate vocabulary scores from scores on assessment of other material. (As the vocabulary is not directly related to the week's reading or



chosen from the assigned text, it is not necessarily “natural” to combine the assessments.) Furthermore, because of the time of year when this research was conducted (immediately before spring break and the subsequent “test-prep” season), the duration of the study was rather short. Extending the study would have allowed me to see whether what appears to be the beginning of a change in attitudes towards vocabulary study were in fact permanent.

Finally, attendance rates at the school are generally low but especially so on Fridays. In the future, I would consider administering quizzes earlier in the week in hopes of gathering more data and impacting more students.

### *Coda: Beyond Forethought*

During the final week of the study, I was in the school computer lab with several of my sophomores. At one point, a student I didn’t know began spouting expletives because someone had called her a coward. After she left, I said to my students, “I guess she doesn’t like people to say she lacks valor.” One of them responded, “Yeah, but she doesn’t need to cause a brouhaha,” and another added, “She looked ludicrous.” (*Valor*, *brouhaha*, and *ludicrous* are all words from our vocabulary bank.) I don’t know who looked prouder—my students or me.

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### ***Author Biography***

*After two years teaching English in Japan, Lindsay Harris earned an M.S.T. from Pace University while serving as a New York City Teaching Fellow in Bronx and Harlem public schools. She is currently in her fourth year of the Ph.D. program in Cognitive Psychology at the University of Pittsburgh, where she studies cognitive and neural processes involved in reading.*

## Appendix

### *Sample Vocabulary Quiz*

Complete the following paragraph using the vocabulary words provided.

bona fide  
gyrate  
ravenous  
satiated  
taciturn

juxtaposed  
ludicrous  
bizarre  
debonair  
pariah

Teresa had always been interested in ballroom dancing, but ever since watching “Dancing with the Stars” she had become a \_\_\_\_\_ fanatic. Even after watching an hour on TV, she was \_\_\_\_\_ for more, and her desire to \_\_\_\_\_ her hips down the halls at school could not be \_\_\_\_\_. Her friends thought her new need to be the focus of attention was \_\_\_\_\_ because she had always been so \_\_\_\_\_, but Teresa was so devoted to her new hobby that she didn’t mind if it cost her all her friends and made her a \_\_\_\_\_. Although other people thought the men’s flashy costumes looked \_\_\_\_\_, Teresa found them extremely \_\_\_\_\_, and dreamt about the day her body would be \_\_\_\_\_ with a famous ballroom dancer’s.

Create your own original sentence, using the words *masticate* and *embellish*.